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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,226	04/22/2004	Tsutomu Matsui	040894-7028	7121
9629 7590 01/22/2007 MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			EXAMINER CHOW, LIXI	
			ART UNIT 2627	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/829,226

Applicant(s)

MATSUI, TSUTOMU

Examiner

Lixi Chow

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 is/are allowed.
- 6) ☒ Claim(s) 2 and 3 is/are rejected.
- 7) ☒ Claim(s) 4-7 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 2 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Ke et al. (US 6,714,491; hereafter Ke).

Regarding claim 1:

Ke discloses a drive unit for driving an objective lens of an optical head, the drive unit comprising:

a lens holder (see Fig. 4, element 204) that holds the objective lens;

a plurality of coils provided on sides of the lens holder (see Fig. 4, elements 206, 208 and 218 correspond to coils);

a plurality of wires that supplies electric currents to the coils and supports the lens holder (see Fig. 4, elements 210, 212, 220 and 224)

a magnet that generates a magnetic field in a portion where the coils are provided (see Fig. 4, element 202a or 202b),

wherein the plurality of wires comprises a first wire, a second wire, a third wire and a common wire (see Fig. 4 and col. 3, line 65 to col. 4, line 1),

wherein the plurality of coils comprises a first system coil connected between the first wire and the common wire, a second system coil connected between the second wire and the common wire, and a third system coil connected between the third wire and the common wire, and wherein the lens holder is to be displaced in a focusing direction, in a tilting angle direction and in a tracking direction independently from each other by the three electric currents respectively flowing in the first, the second and the third wire (see Fig. 6 and col. 4, lines 19 to 33).

Regarding claim 3:

Ke discloses the drive according to claim 2, wherein each of the first, the second and the third system coil comprise a pair of coils each provided on both side of the lens holder (see Fig. 5; elements 206 correspond to the first system coil; elements 208 correspond to the second system coil; and elements 218 correspond to the third system coil).

Allowable Subject Matter

3. Claims 4-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regards to claim 4, none of the reference of record, alone or in combination disclose or suggest the drive unit, wherein **the first and the second system coil are arranged in a direction perpendicular to the focusing direction, and wherein the third system coil is arranged at a position displaced in the focusing direction from a central position of the first and the second system coils.**

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In regards to claim 7, none of the reference of record, alone or in combination disclose or suggest the drive unit, wherein **each of the plurality of coils comprises a square flat coil of a same size.**

4. Claim 1 is allowed.

In regards to claim 1, although the closest prior art of record, i.e., Song et al. (US 6,721,110) disclose a drive unit for driving objective lens of optical head comprising a lens holder that holds the objective lens; a first, second and third system coils, and two magnet bodies being provided on both sides of the lens holder; however, Song et al. fails to disclose the first, second and third system coils each being a pair of flat coils of same size. Therefore, none of the reference of record alone or in combination disclose or suggest a drive unit for driving an objective lens of an optical head, the drive unit comprising:

a lens holder that holds the objective lens;

first second a third system coils each including a pair of square flat coils of a same size and respective pair of square flat coils being provided on both side of the lens holder, the first and the second system coils being arranged in a direction perpendicular to the focusing direction on each side of the lens holder, and the third system coils being arranged at a position displaced in the focusing direction from a central position of the first and the second system coils on each side of the lens holder;

a first wire, a second wire, a third wire and a common wire that support the lens holder and supply an electric current to corresponding coils, the first wire and the common wire being connected to the first system coils, the second wire and the common wire being connected to the

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second system coils, and the third wire and the common wire being connected to the third system coils;

two ferromagnetic bodies each being respectively provided to oppose to both sides of the lens holder, each ferromagnetic body being divided into four regions by x-axis and y-axis, which are perpendicular to each other, each region being magnetized to N-pole or S-pole so that the region adjacent to each other can be magnetized to a different polarity, the x-axis being opposed to a straight line connecting the centers of the first system coil and the second system coil, the y-axis being opposed to a straight line passing at the center of the third system coil,

wherein an amount of displacement of the objective lens in the focusing direction is controlled by an added value or subtracted value of the electric currents flowing in the first and the second wire, an amount of displacement of the objective lens in the tilting angle direction is controlled by a subtracted value or added value of the electric currents flowing in the first and the second wire, and an amount of displacement of the objective lens in the tracking angle direction is controlled by an electric current flowing in the third wire.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kim et al. (USP 2002/0071358) teaches a four-axial driving actuator for optical pickup comprising a lens holder, a plurality of wires that supplies electric current to coils and supports the lens holder, wherein one of the wires is a common wire.

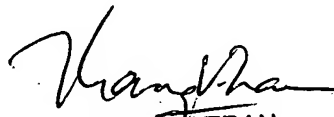
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lixi Chow whose telephone number is 571-272-7571. The examiner can normally be reached on Mon-Fri, 8:30am to 6:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LC 1/3/07


THANG V. TRAN
PRIMARY EXAMINER